

Claims

1. A device for producing insulation elements made of mineral wool, such as rock wool or glass wool, containing a curable binder, comprising a conveyor on which the insulation material, especially in the form of a continuous insulation blanket, is deposited prior to curing and transported through a curing oven (1), in particular a tunnel furnace,  
**characterized by**  
a molding device inside the curing oven, said molding device, while reducing the cross section of the gap through which the insulation material is transported within the curing oven and compacting the insulation material as it passes through, being provided in such a manner that permanent impressions and/or deformations are produced in the insulation material.
2. The device of claim 1,  
**characterized in that**  
the molding device is integrated in the conveyor unit within the curing oven, ~~said conveyor unit comprising~~ at least one molding element (4; 5, 6; 11) to form the impression(s) and/or deformation(s), during which process, as a result of contact, especially pressure contact, with the molding surface (12) of the molding element, the insulation material to be molded assumes a cross-sectional profile that deviates from the rectangular cross section of the incoming insulation material.
3. The device of claim 1 or 2,  
**characterized in that**  
the molding device inside the curing oven has at least one molding element opposite the conveyor unit, at least a second molding element in the conveying plane of the conveyor unit, especially opposite the first molding element, and/or third and/or fourth molding elements lateral to the conveyor unit.
4. The device of claim 3,  
**characterized in that**  
the first molding element is formed by a compacting and guiding unit (4), especially in

the form of a flight belt, which, together with the conveyor unit, compacts the insulation material (2) or transports it at the upper side.

5. The device of claim 3,

**characterized in that**

the first molding element and/or the second molding element are engineered as attachable elements (5, 6, 11) for the conveyor unit (3) or a compacting and guiding unit (4), which, together with the conveyor unit, compacts the insulation material or transports it at the upper side.

6. The device of claim 5,

**characterized in that**

the attachable elements (5, 6, 11) and the conveyor unit are engineered as metal components that have the form of gratings or are provided with ventilation channels, said components being made especially of heat-resistant materials and preferably being of segmented design.

7. The device of claim 5 or 6,

**characterized in that**

the attachable elements (5, 6, 11) for attachment to the conveyor and/or compacting and guiding unit (4) have quick-release closures (13), especially latch-type closures, snap closures, screwed closures or bayonet catches.

8. The device of claim 3 or 4,

**characterized in that**

the first and/or second molding element is arranged such that with respect to the conveying plane (15) of the conveyor unit (3), its molding surface (12) is inclined about the longitudinal transport axis.

9. The device according to one of the preceding claims,

**characterized in that**

the molding element of the molding device is engineered as a kind of endless loop, pre-

ferably comprising a large number of successive segments.

10. The device according to one of the preceding claims,

**characterized in that**

the molding element is engineered such that a differing degree of compaction is obtained over the breadth of the molding surface (12).

11. The device according to one of the preceding claims,

**characterized in that**

the molding element has an arbitrarily-contoured molding surface (12), in particular an inclined planar surface, surfaces with grooves and/or projections, and the like.

12. A method of producing insulation elements made of mineral wool, such as rock wool or glass wool, containing curable binder, in which method the insulation material is deposited on a conveyor prior to curing and transported through a curing oven (1), especially a tunnel furnace, in order to be cured,

**characterized in that**

while the insulation material is curing during its passage through the curing oven, sections of the insulation material are subjected to controlled compaction in such a manner that permanent impressions and/or deformations are produced in the insulation blanket.

13. The method of claim 12,

**characterized in that**

before or during curing, the insulation material is provided with a non-rectangular cross-sectional profile.

14. The method of claim 12 or 13,

**characterized in that**

the cross-section can be of arbitrary profile, particularly including mutually inclined principal surfaces, triangular shapes, trapezoidal shapes and so on, and also have profiles displaying recesses, projections, grooves, impressions and the like.

15. The method of claim 12, 13 or 14,

**characterized in that**

the cross-sectional profile of the insulation element displays two parallel recesses (7 and 8) in one surface.

16. The method according to one of the claims 13 to 15,

**characterized in that**

while the insulation material is being molded into shape, it is compacted to varying degrees depending on the type of profile, with the result that the apparent density within the insulation elements varies accordingly.

17. An insulation element made of mineral wool, such as rock wool or glass wool, which is of non-rectangular cross-sectional profile and which, in particular, varies in height over the cross-section,

**characterized in that**

it has areas (9, 10) of different apparent density.

18. The insulation element of claim 17,

**characterized in that**

the insulation element has a higher apparent density in thinner areas than in thicker areas.

19. The insulation element of claim 17 or 18,

**characterized in that**

the cross-sectional profile of the insulation element displays, in one surface, two parallel recesses (7 and 8) in the area of which the apparent density is higher than in very thick areas.